U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

TOPICS Q&A

DOE SBIR/STTR Fiscal Year 2013: Phase 1 Release 2
EERE Topics Webinar – Monday, November 5, 2012

This paper captures EERE topic-specific questions submitted in connection with the November 5 Topics Webinar. Many questions were submitted and at various stages in the pipeline at the time of the Webinar. This document will capture those for which written answers are available. It will be updated to the extent possible.

Click here to view the Topics Click here to open the Webinar recording

Contents

Important Date(s)

Pertaining to these Topics and the FY 2013 SBIR/STTR Phase I (Release 2) Funding Opportunity Announcement (FOA). All dates are preliminary and subject to change.

Topics Released:	Monday, October 29, 2012
FOA Issued:	Monday, November 26, 2012
Letter of Intent Due Date:	Monday, December 17, 2012
Application Due Date:	Tuesday, February 5, 2013
Award Notification Date:	Late April 2013*
Start of Grant Budget Period:	Early June 2013*

*Preliminary Dates Subject to Change

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Technology Transfer - PV	Victor Kane and Carmen Cioc (emails above)	12

Topic 2: The EERE Advanced Manufacturing Office seeks transformational manufacturing process technologies and in-situ metrology and process controls that will reduce energy consumption and cost in manufacturing by 50%.

(a) Manufacturing Process
(b) In-Situ Metrology and Process Controls

Q	A

Topic 3: The EERE Office of the Biomass Program supports research, development, deployment, and demonstration activities to support diverse, cost-effective bioenergy technologies including:

(a) Measuring and Improving Biomass Quality throughout the Feedstock Supply Chain
(b) Design and Fabrication of Solids Handling for Biomass Conversion Systems

Q	A
Measuring and Improving Biomass Quality: What types of benchmarks does DOE seek?	Please review the design reports from Idaho National Lab with respect to herbaceous or woody biomass benchmarks: https://inlportal.inl.gov/portal/server.pt?open=512&objID=421&PageID=5806&cached=true&mode=2&userID=1829

Topic 4: The EERE Building Technologies Program is looking for efforts that will encourage and accelerate SSL adoption in buildings and other lit spaces, such as parking lots or roadways, by identifying innovations whose commercial successes are likely to have a profound impact on the evolution of SSL.

(a) Energy Conservation Applications for Solid-State Lighting (OLEDs)

Q	A

Topic 5: The EERE Geothermal Technologies Program works to establish geothermal as an economically competitive contributor to the U.S. energy supply. Areas of interest include identifying, accessing, creating, and sustaining hydrothermal and enhanced geothermal system (EGS) reservoirs. **Technologies for electricity generation from marine geothermal resources will NOT be considered under this topic.**

(a) Non-Prime Mover Technologies that Reduce Energy Costs

Q	A
What are some examples of acceptable technologies?	Technologies that identify geothermal resources, assist with creating/accessing the resource (e.g., drilling), and those that help reduce resource degradation (i.e., those that address sustainability).

Topic 6: The EERE Fuel Cell Technologies Program enables the widespread commercialization and near-term use of fuel cell technologies for stationary, portable, and transportation applications. **For this topic, Fuel Cell Technologies is looking for applications focused on hydrogen dispenser systems**.

(a) Hydrogen Dispenser Hose Assemblies
(b) Other

Q	A
Hydrogen Dispenser Component Tech: What is expected in Phase I for the detailed design, preliminary cost analysis and design requirements?	The detailed design should include drawings from which the subsystem can be manufactured. The preliminary cost estimate should be based on quotes. The analysis of the design against the requirements may include mathematical modeling, CFD and FEA analysis or other analysis tools. It is not expected to include the purchase or test of any hardware.
Fuel Cells Other: Can dispensing be for either gas or liquid hydrogen?	Yes. The technology can be relevant to liquid, cyro-compressed, cold or gaseous hydrogen dispensing.
Fuel Cells Other: Are compression technologies part of the dispenser system?	Possibly. If the applicant can show the overall cost of dispensing is lowered and/or the reliability is improved by use of the technology it could be considered with in this topic.

Topic 7: The EERE SunShot Initiative aims to achieve subsidy-free, cost competitive solar power by the end of the decade.

(a) PV Module Degradation;
(b) Module and System Manufacturing Metrology, Diagnostics, and Process Control;
(c) Balance of System (non-hardware); and
(d) Concentrated Solar Power.

Q	A

Topic 8: EERE's Vehicle Technologies Program is focused on developing technologies to enable average new vehicle fuel economy of more than 60 miles per gallon for cars and more than 43 miles per gallon for trucks by 2025.

(a) Electric Drive Vehicle Batteries;
(b) Combustion;
(c) Dual-Fuel Vehicle Technologies; and
(d) Electric Drive Vehicle Power Electronics Subcomponent Improvements

Q	A
Dual-Fuel Vehicle Technologies: Does one of the fuels have to be gasoline?	One of the fuels must be readily available with current infrastructure, i.e., gasoline or diesel. The other fuel can be less common but must still available for transportation, i.e., E85, natural gas, propane.
Dual-Fuel Vehicle Technologies: What capacity/range do the fuels have to cover?	Each fuel should cover at least 40 miles range by themselves if used exclusively, i.e., several gallons of gasoline for a mid-sized passenger vehicle.
Dual-Fuel Vehicle Technologies: Is the application for light-duty only?	Light-duty and heavy-duty on-road applications are acceptable. Off-road applications (rail, marine, construction) will not be accepted.
Dual-Fuel Vehicle Technologies: Does the engine efficiency have to be improved?	Yes, bi-fuel applications that simply substitute gasoline or diesel for an alternative fuel will not be accepted. The proposal must improve the operating efficiency of the engine by exploiting the beneficial fuel properties of both fuels, i.e., using the higher octane of the alternative fuel to improve thermal efficiency or using the alternative fuel to enable a lean-combustion regime.
Electric Drive Vehicle Power Electronics Subcomponent Improvements: Are there metrics associated with "small", "lightweight" or "low loss" for 8(d)1?	There are not exact metrics, but I would encourage folks to compare their approach to the current state of the art for automotive DC/DC converters. One example is given in our 2010 annual report in section 4.1 – see http://www1.eere.energy.gov/vehiclesandfuels/pdfs/program/2010_apeem_report.pdf Similarly, for other topic areas, it is advised to select a current technology or approach for comparison to your proposal.

Topic 9: EERE's Water Power Technology Program seeks proposals that contribute to large cost reductions in the deployment of U.S. water, hydro- and marine, power resources including

(a) Marine and Hydrokinetic Energy; and
(b) Hydropower Applications

Q	A
Marine and Hydrokinetic Energy: What does DOE consider "utility-scale electricity"?	DOE envisions systems capable of producing "utility-scale electricity" to be technologies with high impact potential and electrons on the grid, regardless of where the conversion to electricity takes place, and has identified a commercial market for the technology.
Marine and Hydrokinetic Energy: Would a grant application offering to develop an innovative anchoring approach for devices in high tidal or current areas qualify?	As long as the anchoring approach is targeted for use with MHK systems capable of producing utility-scale electricity then, yes, the application would qualify.

Topic 10: EERE's Wind Technology Program seeks proposals for innovations that significantly advance the goal of large cost reductions in the deployment of U.S. wind power resources, including

(a) Development of a Met-Ocean Package for Offshore Wind; and
(b) Wide Band-gap Semiconductors for Wind Turbine Power Conversion

Q	A

Topic 11: EERE's Solar and Building Technologies Programs are cosponsoring a topic at the nexus of the two programs -

(a) Low-Cost Solar Cogeneration Systems for Residential and Commercial Buildings Application

Q	A

Topic 12: Solar PV Technology Transfer Opportunity

Q	A